

ENTOMOLOGY.—*Adoretus luridus* Blanchard and its near relatives in the Philippine Islands.¹ Edward A. Chapin, Bureau of Entomology. (Communicated by HAROLD MORRISON.)

Adoretus luridus Blanchard, a beetle of the subfamily Rutelinae of the family Scarabaeidae, was described in 1850 from a specimen or specimens taken at Manila, Luzon, P. I. The species has since been reported from various stations in the Philippines, from Malacca, and from southern Indo-China. One specimen from Singapore (C. F. Baker), which may belong to this species, is in the National collection.

A study of the specimens which have been determined in the past as this species and which are available to me shows them to fall naturally into three groups, characterized by differences in size, structure, and, to a degree, in geographical distribution. Starting with the belief that the material did actually represent a single species and intending to illustrate the variation which was thought to exist in the form of the aedeagus, the writer dissected most of the male specimens to disclose the chitinous parts of the genitalia. After learning that there were three types of aedeagus in the lot, with apparently no intergrading specimens, a study of the external anatomy was made. Differences, previously overlooked, were noted and the writer was forced to the conclusion that three closely related species were represented. The three species agree in the following points:

Upper surface sparsely and irregularly clad with pale, depressed setae. Clypeus broadly, almost semicircularly rounded with its anterior margin strongly reflexed, clypeus and frons furnished with aciculate punctures, a narrow transverse line across the vertex smooth and without punctures, occiput with coarse, transverse punctures. Eyes moderately prominent, ocular canthus narrow, reaching back about one-third diameter of eye. Pronotum transverse, about twice as wide as long, marginal bead complete on all sides. Elytron with three poorly defined costae, two of these discal, the other subhumeral, sutural bead broad. Abdominal sternites each with a transverse submarginal row of conspicuous spine-like setae, the row on the sixth sternite becoming marginal at the sides. Anterior tibiae with three teeth on outer side, middle and posterior tibiae surate, each with two oblique rows of four or five spines each. Outer claw of anterior and middle tarsi thickened and split at tip, that of posterior tarsus simple. In the descriptions that follow, the information given above is not repeated.

ADORETUS LURIDUS Blanchard.

Figures 1, 4-9

Color yellow-brown, head, pronotum (flanks excepted), and elytral suture piceous, tarsi castaneous. Clypeo-frontal suture nearly straight. Pronotum never less than twice as broad as long, sides subangulately rounded, basal

¹ Received May 19, 1931.

angles broadly rounded, anterior angles almost right, hardly produced, lateral and basal marginal beads narrow, lateral margin finely crenulate, anterior marginal bead broad and flat. Punctures coarse and sparse, evenly distributed or nearly so. Scutellum with a few coarse punctures. Elytron with intercostal spaces densely set with coarse punctures, the punctures between the discal costae roughly arranged in four rows. Apical sutural angle well-defined but blunt. Pygidium finely but roughly sculptured at sides, nearly smooth at middle, pubescence longer and more conspicuous at middle, lower margin sinuate, apex subtruncate and slightly reflexed. Upper tooth of anterior tibia well-developed.

Length 9-10.5 mm.

Apparently a common species at Manila, whence it was originally described. Its distribution is to the south and along the south shore of Laguna de Bay. Specimens before me are from: Manila Prov., Manila; Cavite Prov., Bacoor; Laguna Prov., Los Baños and Mt. Makiling. While there is some variation in the intensity of the coloration (occasionally a specimen with an almost entirely pale pronotum occurs), none of the specimens fails to show the dark sutural stripe.

ADORETUS PHILIPPINICUS Pic.

Figures 2, 10-21

Similar in general appearance to *A. luridus* Blanchard but smaller, with the antennal club (male) proportionately much longer. Color yellow-brown, head, pronotum (except for small spot on flanks), and tarsi piceous, elytra often entirely dark but always with a dark suture. Head flat, clypeo-frontal suture feebly angulate at middle. Pronotum never quite twice as broad as long, sides rounded, lateral margins distinctly crenulate, marginal bead complete, anterior angles almost right, somewhat blunted at apices, basal angles effaced. Disc with a very few large punctures, flanks more densely punctured. Scutellum rough, without definite punctures. Apical sutural angle of elytron very broadly rounded. Pygidium covered with very fine scratches and with some very fine punctures, from each of which there arises a yellowish hair. Anterior tibia with upper tooth very weakly developed.

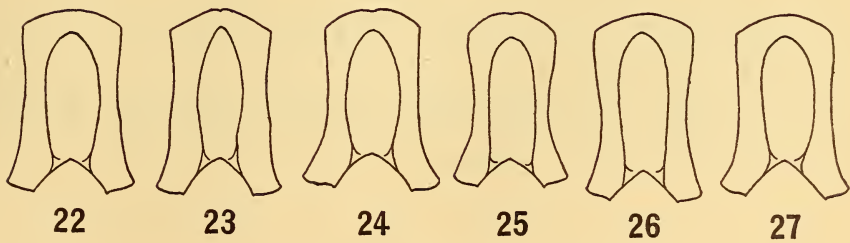
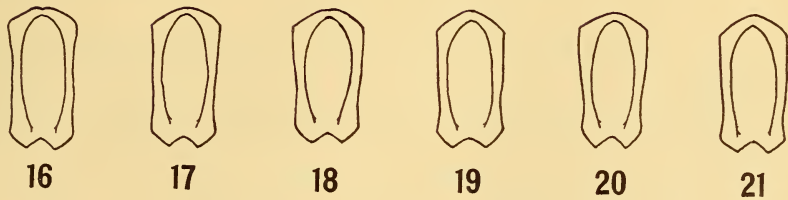
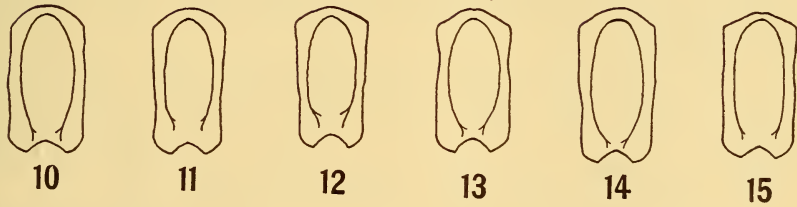
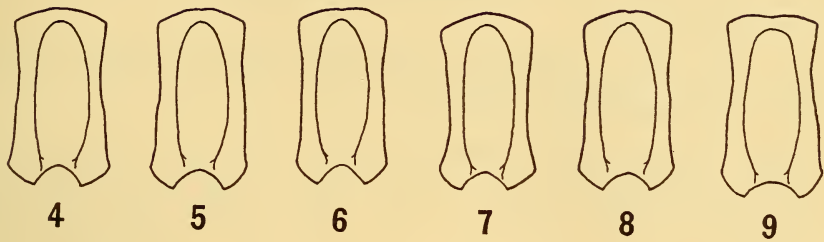
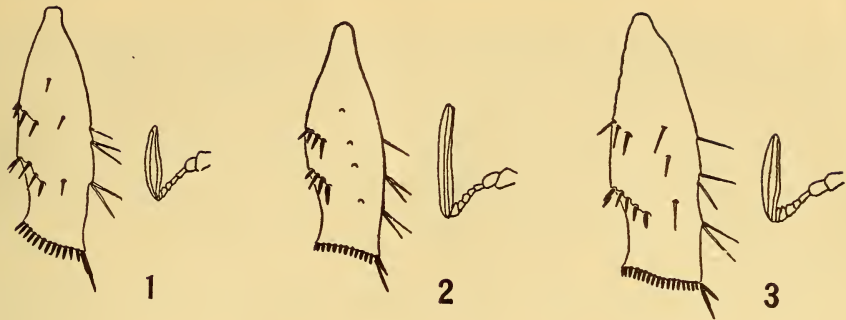
Length 7.5-9 mm.

A. philippinicus Pic. was described in *Le Naturaliste*, Ser. 2, Vol. 19, p. 131, 1905. The species is more northern in its distribution than *A. luridus* Blanchard, specimens having been identified from Benguet and Union provinces, as well as from Manila. The figure of the aedeagus given by Ohaus (*Deutsche ent. Zeitsch.*, 1914, p. 472, fig. 1) as of *A. luridus* Blanchard appears to be of this species. The National collection contains specimens from: Benguet Prov., Baguio; Union Prov., Bayana; Manila Prov., N. W. shore of Laguna de Bay, and Manila. Also four specimens from the Baker collection labelled "Philippines-Schadenberg."

Adoretus lopezi, new species.

Figs. 3, 22-27

Larger and paler than either of the preceding species, distinguished by the uniformly pale pronotum, the virtual absence of the sutural stripe on the



elytra, by the form of the aedeagus, and by the different geographical distribution. Color yellow-brown, head, tarsi, and apices of tibiae darker. Head lightly convex, clypeo-frontal suture nearly straight. Pronotum never less than twice as broad as long, sides broadly and evenly rounded, lateral margins almost entire, basal angles effaced, anterior angles slightly produced. Disc convex, anterior half of pronotum sparsely punctured, posterior half almost impunctate. Scutellum smooth with a few coarse punctures. Pygidium finely wrinkled, clad with fine hairs, those at the middle longer and forming a distinct tuft. Upper tooth of anterior tibia strong.

Length 10–11 mm.

Type.—U.S.N.M. Cat. No. 43516, a male from La Carlota, Occidental Negros, May 17, 1930, A. W. Lopez, collector. *Paratypes*, three males and three females, same data; one male from Negros, May, 1911, C. V. Piper, collector; four males from Victorias, Occidental Negros, April 25–May 15, W. D. Pierce, collector.

The more evident differences between the species described above are given in the following synopsis.

1. Antennal club (male) about twice as long as preceding six segments combined; posterior tibia short, about twice as long as antennal club; size small, length not over 9 mm.; Luzon, mostly north of Manila
philippinus Pic.
- Antennal club (male) not more than half again as long as preceding six segments combined; posterior tibia longer, about three times as long as antennal club.....2.
2. Size moderate, 9–10.5 mm., elytra paler than pronotum but with sutural stripe and often with a poorly defined discal area dark, pronotum with flanks broadly paler, disc usually dark; Luzon, mostly south of Manila.....*luridus* Blanchard.
- Size slightly larger, 10–11 mm., pronotum and elytra pale, sutural bead hardly darker, head sometimes dark, usually castaneous; Negros
lopezi new species.

EXPLANATION OF FIGURES

1. *Adoretus luridus* Blanchard. Posterior tibia and antenna, Manila, May, 1925, R. C. McGregor.

2. *Adoretus philippinus* Pic. Posterior tibia and antenna, Baguio, G. G. Haslam.

3. *Adoretus lopezi* n. sp. Posterior tibia and antenna, La Carlota, May 17, 1930, A. W. Lopez.

The following figures are of the distal portion of the aedeagus:

4–9. *Adoretus luridus* Blanchard. 4–6, Los Baños, April 17, F. X. Williams. 7, Laguna Province, P. Stangl. 8, 9, Bacoar, Cavite Province, P. Stangl.

10–21. *Adoretus philippinus* Pic. 10, Manila, June, 1924, R. C. McGregor. 11, Manila, May, 1925, R. C. McGregor. 12, "Philippines, Schadenberg."

13–15, Manila Province, 1913, A. M. Reese. 16, Baguio, April 10, 1911, C. V. Piper. 17–21, Baguio, G. G. Haslam.

22–27. *Adoretus lopezi* n. sp. 22, Negros, C. V. Piper. 23, Victorias, April 21, 1928, W. D. Pierce. 24, Victorias, May 7, 1929. 25–27, La Carlota, May 17, 1930, A. W. Lopez.